Department of Energy

ROCKY FLATS OFFICE
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Gentlemen:

The purpose of this letter is to inform you of the status of activities regarding dewatering of the Solar Evaporation Ponds at the Rocky Flats Plant, and to present our plans for managing groundwater in and around the ponds until a final remedial solution is developed for the entire site.

The first step in solar pond closure will be the dewatering of the ponds. A water balance completed this year indicates that a total of 8 million gallons of water must be removed from the ponds before sludge and sediment removal/treatment can commence. At the present time, water from the 207B north pond is being sent to the Building 374 evaporator system for treatment, but the Building 374 facility does not have sufficient capacity to treat the entire 8 million gallons in sufficient time to meet closure schedules for the solar ponds.

Compounding the problem of dewatering the ponds is the influx of water from a groundwater collection system that was constructed in the early 1980's to prevent contaminated groundwater from entering North Walnut Creek. The groundwater collection system (known as the french drain) transfers the water back into the 207B north pond.

The hillside between the ponds and the french drain has recently been observed to have eroded and to contain gullies. This area also contains old sumps and interceptor trenches which were in service prior to the existing french drain system but have been removed from service after installation and operation of the french drain. The old sumps and eroded area currently exhibit surface water seepage. Although the runoff from this seepage is upgradient from the french drain and is believed to be collected by the french drain, the area needs some work to further control groundwater flow and assure that contaminated groundwater is effectively collected in the french drain system.

While we have no indication of water quality impacts in the A-series ponds, located downstream from this area of the plant, we believe that actions must be taken to minimize the possibility of contaminant migration to surface water from this source. Our proposed strategy is outlined below:

-Rehabilitating the hillside between the solar ponds and the french drain system.

-Install three forced evaporation units, in Building 910, to treat water from the 207A and 207B series ponds (207C pond water contains too high a concentration of total dissolved solids to be effectively treated in this process) and to treat the groundwater pumped from the french drain system. Treated distillate from these evaporators will be discharged into the plant's raw industrial water system for use in cooling towers and the steam plant. The concentrate from the evaporators will be treated at the permitted Building 374 spray dryer system and the pondcrete cementation process. These evaporators will continue in operation after the ponds are dewatered as the primary treatment means for french drain groundwater, any incidental precipitation collected from the capped solar ponds, and water from other environmental restoration work at Rocky Flats Plant.

-Install temporary surge tanks to contain surge flows from the french drain system, primarily during the spring months. The installation of these tanks will obviate the need for use of the 207B series ponds as holding basins for water from the french drain system as is now being done. These tanks will meet all regulatory requirements pertaining to hazardous waste storage tanks. The storage capacity of these tanks will be approximately 2 million gallons total. The site for these tanks is currently being evaluated.

-An intensive, ongoing monitoring effort will occur in conjunction with the proposed solar pond dewatering and treatment tasks to assure that the treatment system performs as designed, and assure that contaminants are not introduced into the plant's raw water system. Monitoring will be particularly intensive during the start-up phase of the evaporators but will continue through a combination of real-time and laboratory analysis.

Currently, funding is available to accomplish these dewatering activities. Administrative work to initiate the proposed actions has already begun. We believe our proposed strategy will provide the most expeditious means of protecting human health and the environment from risk of contamination migration. We did provide you with the general details of our strategy for these actions at our December 12, 1990 meeting, but we would like to propose an additional meeting to discuss the most effective regulatory means to permit the operation of the storage and treatment units, and to outline appropriate regulatory requirements for this effort.

Since we believe that the solar pond closure and these water management proposals are extremely important and urgently required, we request that a meeting be held prior to January 15, 1990. My staff will contact you to arrange an acceptable meeting time and location.

If you have any questions, please feel free to contact me or Thomas E. Lukow of my staff at 966-4561.

Sincerely,

for Robert M. Nelson, Jr.
Manager

cc:
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